

PDU Utility

User Manual

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1. Introduction

PDU Utility is PDU monitoring, management software. It has been designed to provide information about power conditions and status of PDU and power environment.

Its functions have

1. Monitor a large amount of PDU power consumption simultaneously.
2. Group Management of a large amount of the PDU.
3. Provide power consumption chart for daily monthly or the user-defined period report.
4. Send the email to the specific account when the power event occurs.
5. Manage PDU by multiple user and different privilege.

2. Installation

Install procedure:

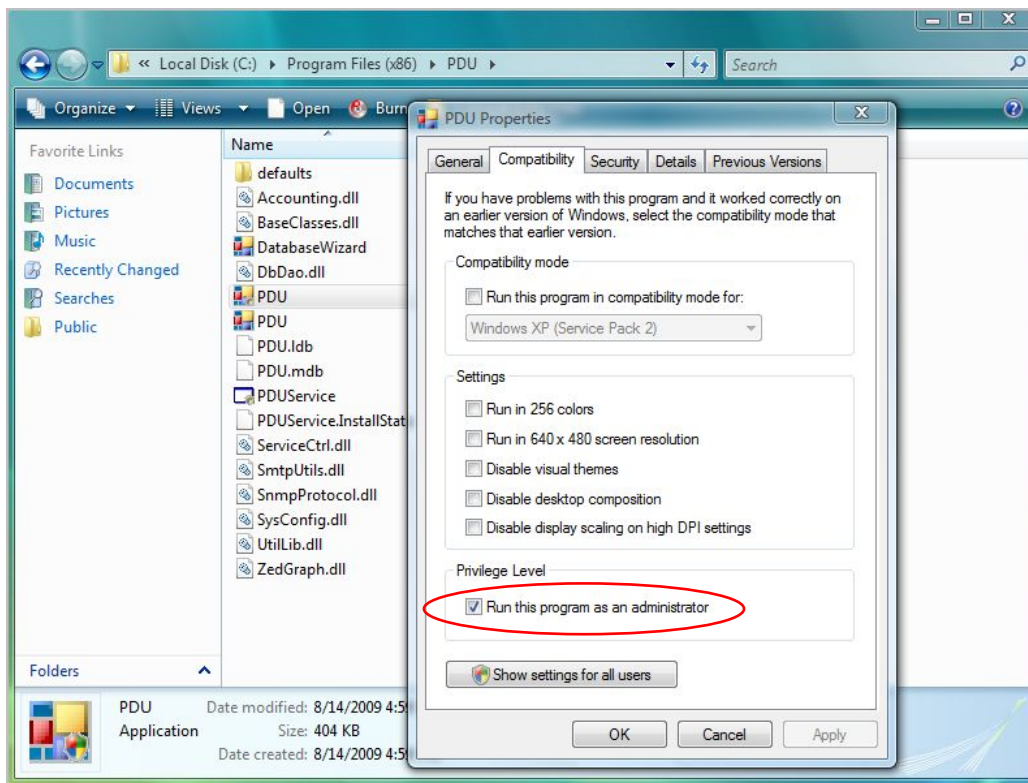
CD Auto play screen. Please install the software step by step.



中文

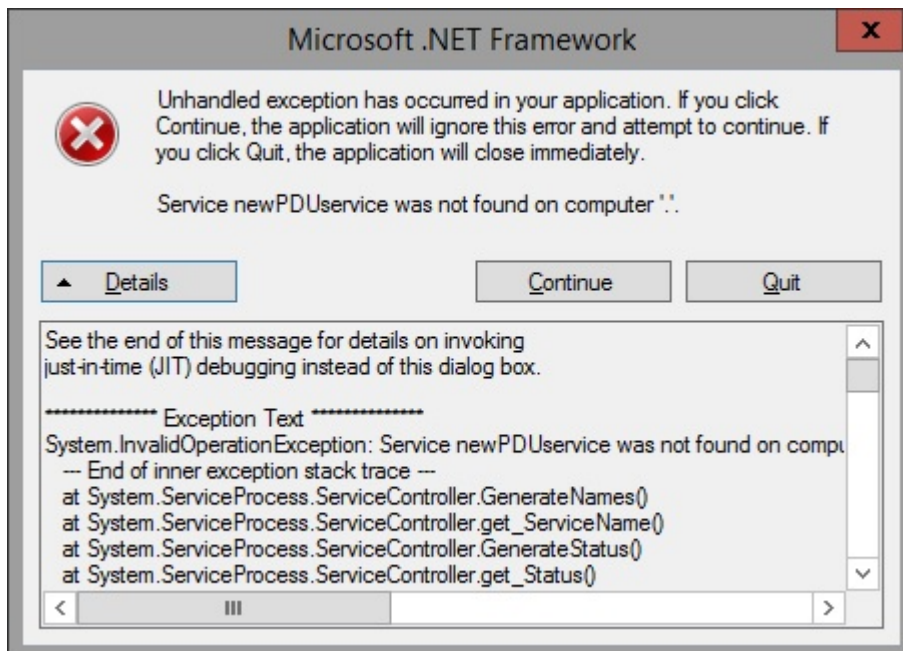
Note:

1. It will take several minutes if your operation system had not been installed Microsoft .NET Framework yet.
2. Recommend that install the PDU Utility to the server level of Windows operation system.
3. If install utility on [Windows Vista, Win 7 or higher Windows OS version](#), please first go to the folder of PDU and select the Properties of "PDU.exe", shown as below to check the "Run this program as an administrator". Then the utility will work normally.

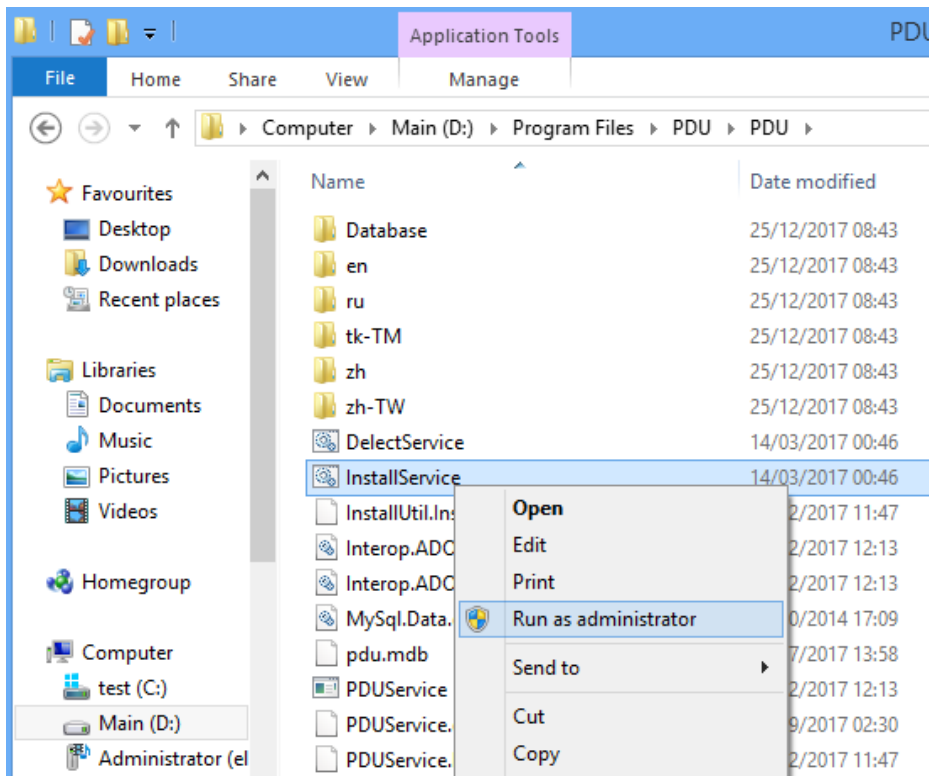


Note:

If the software indicates the following message when running in the first time,



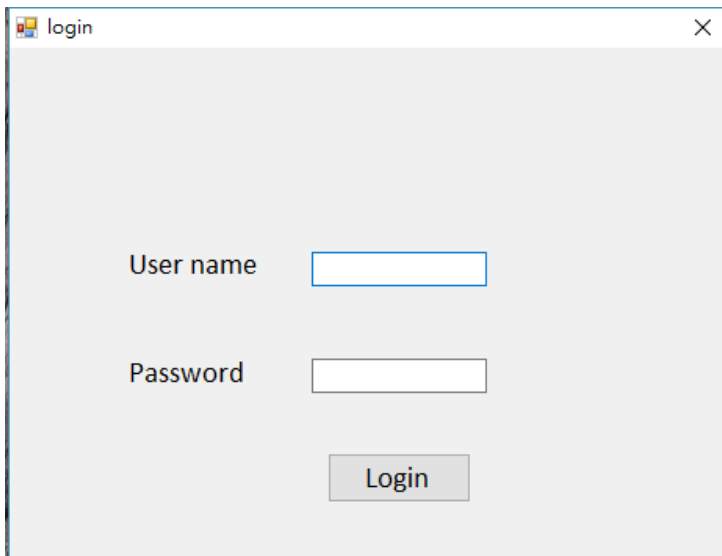
Please run the batch file "InstallService.bat" as the following shown.



3. PDU Utility Interface

LOGIN SCREEN.

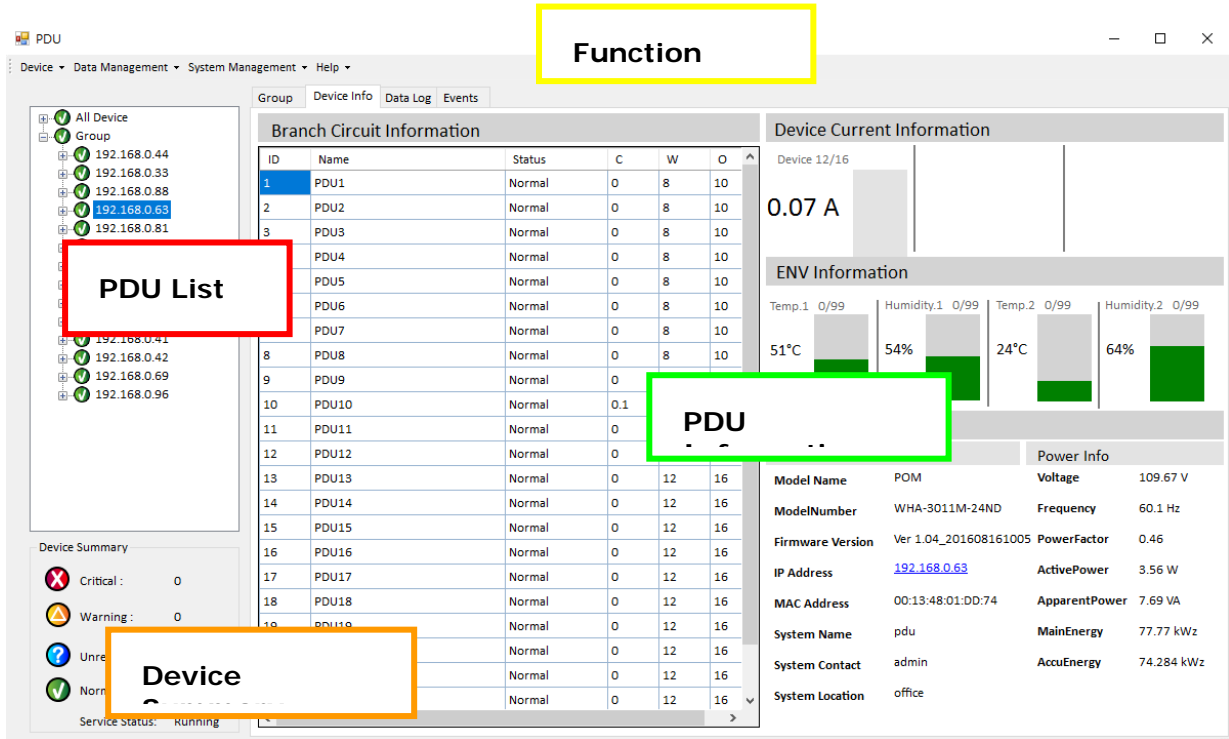
The default User Name is **admin**, Password is **1234** .



The image shows a screenshot of a login window titled "login". The window has a light gray background and a dark border. It contains two text input fields: "User name" and "Password". Below the "Password" field is a "Login" button. The "User name" field is currently empty, and the "Password" field is also empty. The "Login" button is a simple rectangular button with the text "Login" centered on it.

MAIN SCREEN

Display all power information by table and txt interface. Provide more detail information.



Function Menu:	PDU Utility functions bar.
PDU List:	List all the PDU in the network; user can define the group to easily manage a large amount of the PDU.
PDU Information:	This area provides all detail information about the PDU.
Device Summary:	Indicate the status of the monitored PDU in the network.

Device Summary

	Critical:	Indicate PDU output power exceeds the setting of overload.
	Warning:	Indicate PDU output power exceeds the setting of warning.
	Unreachable:	Indicate that PDU Utility cannot reach out the PDU.
	Normal:	Indicate the PDU is working normally.

Service Status

PDU Utility service status

Note: When indicates "Stopped" , please go to System Management > Service Control to "Start" the service.

FUNCTION MENU

Device

Add Device

Administrator can add the PDU by manually if the IP address of PDU had been setup before.

Device Group:	Select the PDU belongs to which group
Device IP	Enter the known PDU IP
SNMP Community:	Set the community, it must the same with the PDU in order to communicate with it.

The screenshot shows a standard Windows-style dialog box titled "Add Device". It features a close button (X) in the top right corner. The main content area is divided into sections. The first section is labeled "Device Groups" and contains a list box with the text "group". Below this list box are four text input fields, each with a label to its left: "Device IP:", "Community:", "Trap IP:", and "Syslog IP:". At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Edit Device

Administrator can redefine the PDU information here, including

Device Group:	Change the PDU belongs to which group
Community:	Set the community, it must the same with the PDU.
ENV Threshold Setting	Set threshold for ENV 1 and ENV 2
SNMP Settings:	Display SNMP information for the PDU.
Network Settings:	Display PDU network configuration.
Total Current Threshold Setting	It is only available when there is not only one PDU under this IP address. User can input the current threshold to prevent total PDUs' power consumption exceed the facility capacity.
Carbon Emissions	Set carbon emissions rate

The screenshot shows the 'Edit Device' window for a PDU with Hostname: 192.168.0.44. The window is divided into several sections:

- Local Settings:** Includes a 'Device Groups' section with a 'Group' dropdown menu and a 'Community' field set to 'private' with a 'submit' button.
- SNMP Settings:** Includes fields for 'Name' (PDU), 'Location' (Office), and 'Contact' (Admin).
- Total Current Threshold Settings:** Includes 'Warning Current' (15) and 'Critical Current' (18) fields.
- Network Settings:** Includes an 'IP Address' field set to 192.168.0.44.
- Carbon Emission:** Includes three 'Rate' fields (Rate 1, Rate 2, Rate 3), all set to 'N/A'.
- ENV Threshold Setting 1:** Includes 'Temperature' (Lower Bound: 12, Upper Bound: 99) and 'Humidity' (Lower Bound: 10, Upper Bound: 85) fields.
- ENV Threshold Setting 2:** Includes 'Temperature' and 'Humidity' fields with empty input boxes.

At the bottom right, there are 'ok' and 'cancel' buttons.

Remove Selected Device

Delete the selected the IP address of PDU

Edit PDU Config.

Modify PDU configuration.

Hostname	User defines the PDU name.
Voltage	Display PDU voltage
PDU Name	User defines the circuit name.
Threshold	PDU circuit threshold.

The screenshot shows a window titled "Edit PDU" with the following configuration:

- Hostname: 192.168.0.44
- Community: private
- PDU ID: 1
- Voltage: 230
- PDU name: PDU1
- Thresholds:
 - Warning Circuit: 15
 - Overlaod Circuit: 18

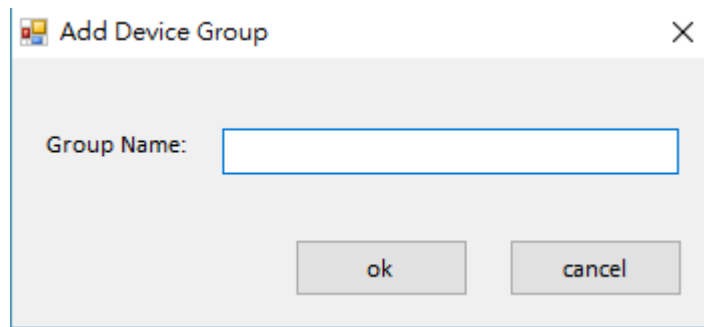
Buttons for "ok" and "cancel" are located at the bottom of the dialog.

Update Device Information

Update the PDU information manually.

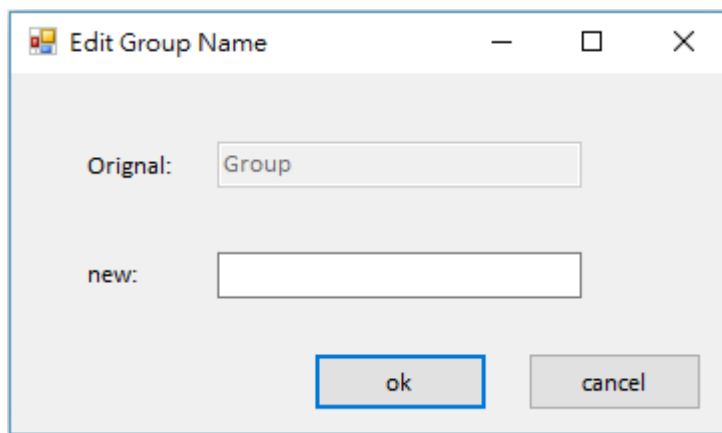
Add Device Group

Create a new group.



Edit Group

Rename the group



Remove Device Group

Delete an existing group. All PDU listed under this group must be removed first.

Change Device Name

Change the display from IP to PDU name

Data Management

Export Device Power Info to CSV

Table Content

pdate	ip	puname	pucurrent	puv	pfreq	ptemp	phumidity
Date	IP Address	PDU Name	Current	Voltage	Frequency	Temp.	Humidity

Export Per Outlet Data log to CSV

Table Content

ip	Name	Time	Current
IP Address	Circuit Name	Time	Current

Export Events to CSV

Table Content

time	ip	pdu	event
Time	IP Address	Circuit Name	Description

Export Group Current Summary to CSV

Table Content

Group	pdate	pucurrent
Group Name	Time	Current

Remove Data Log Records

Remove Group Current Summary

Remove Per Outlet Data Log

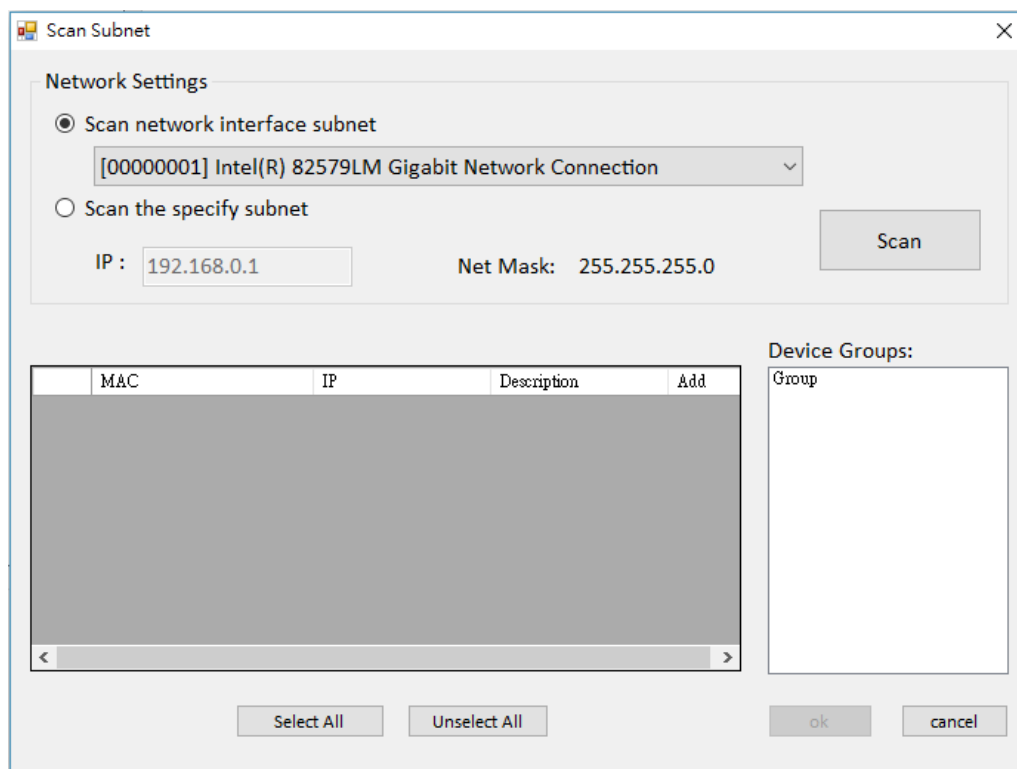
System Management

Scan Subnet

Search all IP addresses of PDU that are connected under the same subnet.

Procedure:

1. Select the way to scan the PDU in the network.
 - i. Scan network interface subnet
 - ii. Scan the specify subnet
2. Press the “Scan” Button to search all PDU devices under this subnet.
3. Checked the box of “ADD” that you want to add to PDU Utility.
4. Select one of the groups in the “Device Group” to category the PDU.
5. Select “OK” to finish the procedure.



General Setting

This setting contains two functions.

Mail	When the event occurs, PDU Utility can send out the email message to the pre-defined account.
Temperature Unit	Switch the temperature unit between Celsius and Fahrenheit.
Period	Change the interval of log.

General Settings

Mail

Enable

Sender:

Email Address(1):

Email Address(2):

Email Address(3):

SMTP server:

SMTP port:

Authentication

Account:

Password:

Temperature Unit

Celsius

Fahrenheit

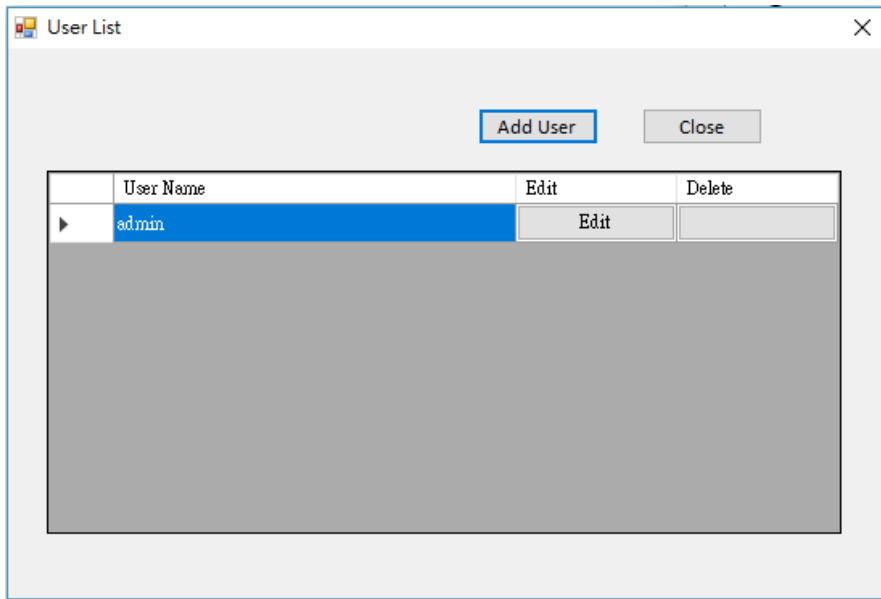
Period

data Log minute(s)

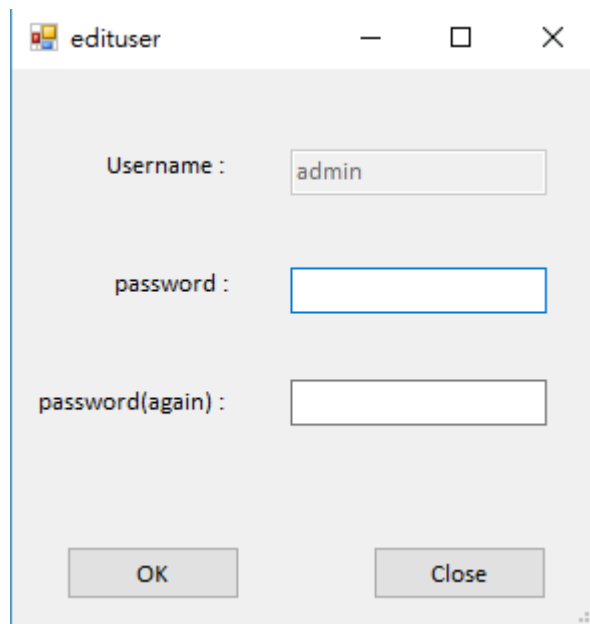
ok cancel

User List

Administrator can add, delete and manager all the user privilege here.



User can only change the password for the "Admin" account.



Add user

User can be assigned to the authority of Read only or Read/Write.

Username :

Password :

Password (again) :

	Group	Read Only	Read/Write
▶	Group	<input type="checkbox"/>	<input type="checkbox"/>

ok cancel

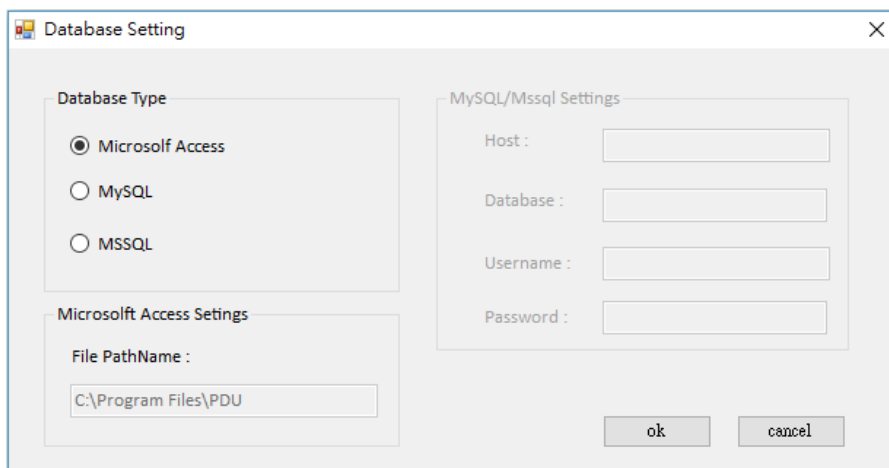
Edit User:

Change the password, authority for the user.

Database Setting

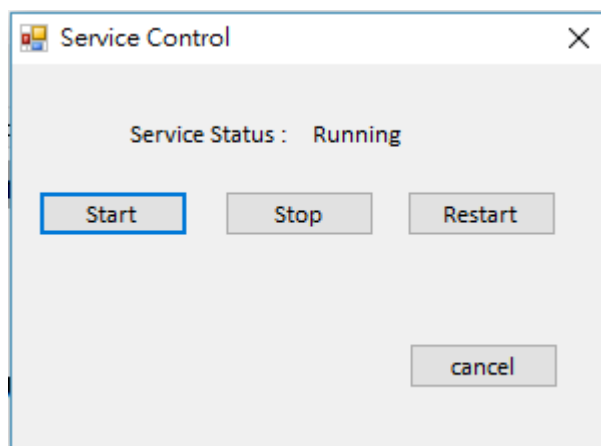
Modify the database setting.

- The default database is set to Microsoft Access.
- If you want to use MySQL database, you may download it from <http://www.mysql.org>
- Please note that MS-SQL are verified for MS SQL 2005.



Service Control

Service control.



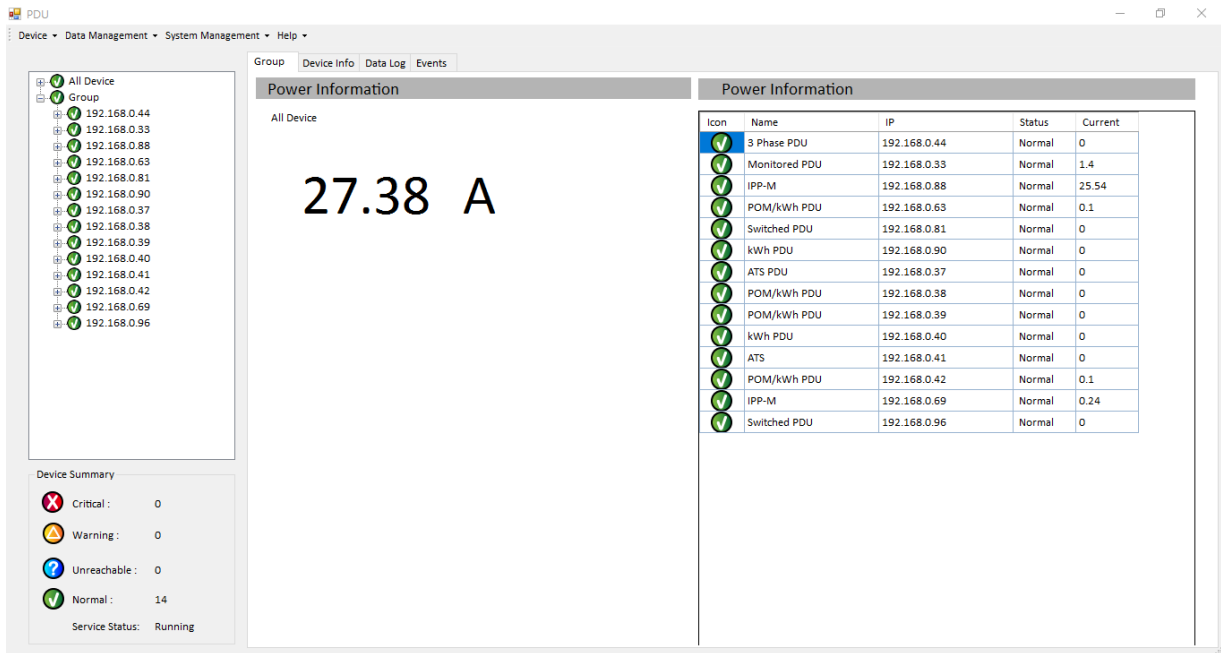
Note:

If the service can not start, it could be the SNMP port had been used by the other program in the Windows OS. Please close the program and then restart PDU.

PDU INFORMATION

Group Information:

Provide PDU information and the summary chart under group.



Icon:	Indicate the PDU status by different icon.
Name:	The name of PDU.
IP:	The IP address of PDU
Status:	<p>Indicate PDU status.</p> <ul style="list-style-type: none"> ● Normal: The PDU Utility communicates with PDU normally. ● Querying: The PDU Utility is requesting data from the PDU. ● Communication Lost: The PDU Utility can not get data from the PDU. ● Warning: The power consumption of PDU exceeds the threshold of warning. ● Overload: The power consumption of PDU exceeds the threshold of overload.

Device Information:

Indicate the detected information from total PDU device and attached device, Including current, ENV, device and power information.

The screenshot displays the PDU Utility software interface. On the left, a tree view shows a group of 24 PDU devices with IP addresses ranging from 192.168.0.44 to 192.168.0.96. Below this is a 'Device Summary' section showing 0 Critical, 0 Warning, 0 Unreachable, and 14 Normal devices, with a 'Service Status' of 'Running'.

The main area is divided into several sections:

- Branch Circuit Information:** A table listing 24 PDU units (PDU1 to PDU24) with columns for ID, Name, Status, C, W, and O. All units are in a 'Normal' status.
- Device Current Information:** Shows a current reading of 0.07 A for Device 12/16.
- ENV Information:** Displays environmental metrics: Temp.1 at 51°C (0/99), Humidity.1 at 53% (0/99), Temp.2 at 24°C (0/99), and Humidity.2 at 64% (0/99).
- Device Information:** A detailed view for a selected device (PDU12) showing:

Device Info		Power Info	
Model Name	POM	Voltage	109.48 V
ModelNumber	WHA-3011M-24ND	Frequency	60.1 Hz
Firmware Version	Ver 1.04_201608161005	PowerFactor	0.46
IP Address	192.168.0.63	ActivePower	3.5 W
MAC Address	00:13:48:01:DD:74	ApparentPower	7.66 VA
System Name	pdu	MainEnergy	77.777 kWz
System Contact	admin	AccuEnergy	74.291 kWz
System Location	office		

Data Log:

Provide PDU current data and power record.

The screenshot displays the PDU Data Log interface. On the left, a tree view shows the device hierarchy under 'All Device' and 'Group'. The main area shows the 'Data Log' tab for device '192.168.0.63'. The log time is set to 'Monthly' for '2016/08'. A table of log entries is shown below, with columns for Date, Current, Voltage, Freq., PF, Temp., and Humidity. Below the table is a 'Device Current Information' section with a 'Voltage' dropdown and a 'Power Consumption Chart' showing Voltage (V) over time.

Date	Current	Voltage	Freq.	PF	Temp.	Humidity
2016/08/26 11:50:08	0.07//	109.22//	59.98//	0.46//	51/24	53/64
2016/08/26 11:35:08	0.07//	109.28//	60.11//	0.46//	51/24	53/64
2016/08/26 11:18:45	0.07//	107.26//	60.1//	0.46//	51/24	53/63
2016/08/26 11:03:45	0.07//	109.73//	59.98//	0.46//	51/24	53/63
2016/08/26 10:48:45	0.07//	107.21//	59.98//	0.47//	51/24	54/63
2016/08/26 10:33:45	0.07//	109.83//	59.98//	0.46//	51/24	53/63
2016/08/26 10:07:52	0.07//	109.44//	60.1//	0.46//	51/24	54/63
2016/08/26 09:52:52	0.07//	108.94//	59.98//	0.53//	51/24	54/64

Device Current Information

Voltage

Power Consumption Chart

Voltage (V)

120
100
80
60
40
20
0

11:35:08 2016/08/26 11:18:45 2016/08/26 11:03:45 2016/08/26 10:48:45 2016/08/26 10:33:45 2016/08/26 10:07:52 2016/08/26 09:52:52 2016/08/26

Voltage
Voltage2
Voltage3

Events:

Provide events log.

The screenshot displays the PDU Utility software interface. On the left, there is a tree view of devices, all of which are green, indicating they are online. Below this is a 'Device Summary' section showing 0 Critical, 0 Warning, 0 Unreachable, and 14 Normal devices, with the service status set to 'Running'. The main area is titled 'Events' and shows a filter for 'Monthly' in '2016/08'. The event list table is as follows:

Time	IP	PDU	Event
2016/08/26 11:56:34	192.168.0.88		The current is back to normal
2016/08/26 11:54:34	192.168.0.88		The current value is higher than the overload threshold
2016/08/26 11:44:45	192.168.0.88		The current is back to normal
2016/08/26 11:44:33	192.168.0.88		The current value is higher than the warning threshold
2016/08/26 11:19:01	192.168.0.88		The current is back to normal
2016/08/26 11:18:49	192.168.0.88		The current value is higher than the warning threshold
2016/08/26 10:56:24	192.168.0.88		The current is back to normal
2016/08/26 10:56:11	192.168.0.88		The current value is higher than the warning threshold
2016/08/26 09:50:10	192.168.0.41	5	PDUService-add a new PDU
2016/08/26 09:50:10	192.168.0.41	6	PDUService-add a new PDU
2016/08/26 09:50:10	192.168.0.41	7	PDUService-add a new PDU
2016/08/26 09:50:10	192.168.0.41	8	PDUService-add a new PDU
2016/08/26 09:50:10	192.168.0.42	1	PDUService-add a new PDU
2016/08/26 09:50:10	192.168.0.42	2	PDUService-add a new PDU
2016/08/26 09:50:10	192.168.0.42	3	PDUService-add a new PDU
2016/08/26 09:50:10	192.168.0.41	4	PDUService-add a new PDU
2016/08/26 09:50:10	192.168.0.42	5	PDUService-add a new PDU
2016/08/26 09:50:10	192.168.0.40	5	PDUService-add a new PDU
2016/08/26 09:50:10	192.168.0.42	4	PDUService-add a new PDU